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| 10/541,338 | 12/07/2005 | Victor D. Geockner | 27726-99611 | 7738 |

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| EXAMINER |
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RALIS, STEPHEN J

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| ART UNIT | PAPER NUMBER |
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3742

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/04/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/541,338

Applicant(s)

GEOCKNER ET AL.

Examiner

Stephen J. Ralis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2005 and 10 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/02/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant is notified of receipt and acknowledgement, on 10 January 2007, of the amendments to Application No. 10/541,388, filed on 07 December 2005.
2. The examiner notes that Liverani et al. (U.S. Publication No. 2004/0163546) and Greenwald et al. (U.S. Publication No. 2004/0163546) were inadvertently not included in the previous PTO-892. This has been rectified in this office action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 2-4, 11, 20, 26, 27 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of

Hirabayashi et al. (U.S. Patent No. 4,937,600), as evidenced by Herrick et al. (International Publication WO 00/11914).

With respect to the limitations of claims 2-4, 27 and 29-31, Bergmann et al. disclose a heated beverage apparatus and method of heating a liquid using such an apparatus comprising: a container (reservoir 38) for retaining a liquid to be heated; a heating element (heating elements 58, 84, 130) directly coupled to an AC voltage power supply; and a control circuit (93) including a temperature sensing thermostatic switch (94) to control the activation of the heating element (58, 84).

The claims differ from Bergmann et al. in calling for the apparatus being operable either by a domestic AC voltage or by a foreign AC voltage; a power supply having an input that coupled directly to the domestic AC voltage when the heating apparatus is operated domestically and coupled directly to the foreign AC voltage when the heating apparatus is operated in a foreign country, the power supply having a DC voltage output of substantially a predetermined value regardless of whether the input is coupled to a domestic AC voltage or a foreign AC voltage; a heating element coupled directly to the domestic AC voltage when the heating apparatus is operated domestically and coupled directly to the foreign AC voltage when the heating apparatus is operated in a foreign country, the heating element being operable to heat the liquid retained in the container; and a controller coupled to the DC voltage output to receive power from the power supply, the controller being configured to control the operation of the heating element.

However, an apparatus being operable either by a domestic AC voltage or by a foreign AC voltage comprising a power supply that outputs a predetermined DC voltage

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output value independent of the input AC voltage (i.e. foreign or domestic AC voltages); a heating element being operable in both a foreign and domestic AC voltage environment; and a controller coupled to the power supply DC voltage output and configured to control the operation of the heating element, as described by Hirabayashi et al., is known in the art. Hirabayashi et al. teach a heating element (5) that is directly coupled to the input AC voltage of either a foreign or domestic AC voltage source (column 1, lines 21-27; column 2, lines 12-15; see Figure 8). Hirabayashi et al. also teach a power supply (low voltage source 25) that is directly coupled to the foreign or domestic AC input voltage and supplies a predetermined value (low voltage) regardless of whether the input that is directly coupled to the foreign or domestic AC input voltage (column 15, lines 6-9; see Figure 27). Similarly, Hirabayashi et al. teach the heating element (5) being operated domestically when coupled to a domestic AC voltage and operated in a foreign country when coupled to a foreign AC voltage (column 9, line 32 – column 10, line 40; see Figures 9a-9f). In addition, Hirabayashi et al. teach a controller (CPU 3, 21 and heater control circuit 4, 33) that is coupled directly to the DC voltage of the power supply (see Figure 27) that controls the operation of the heating element via a on ON/OFF signal from the CPU (3, 21) and heater control circuit (4, 33) to the triac switch (30) (column 9, line 32 – column 10, line 40). Hirabayashi et al. further teach the advantage of such a heater control system provides an apparatus to stably operate with a plurality of rated voltage power sources, thereby making the device internationally usable without the need of adapters, etc.

In addition, Herrick et al. teach that having a beverage heating apparatus that may operate on domestic or foreign AC voltages as being known in the art and desired.

Therefore, in view of Hirabayashi et al., it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the temperature control functionality of the beverage heating apparatus of Bergmann et al. with the temperature control and foreign/domestic AC voltage monitoring control of Hirabayashi et al., since as evidenced by Herrick et al., providing the ability of a beverage heating apparatus to function independent of whether an AC voltage source is foreign or domestic will provide the apparatus to stably operate with a plurality of rated voltage power sources, thereby making the device internationally usable without the need of adapters, etc.

With respect to the limitations of claims 11 and 26 and a temperature sensor that is coupled to the controller and that provides a signal to the controller which is indicative of a temperature of the liquid in the container, Hirabayashi et al. clearly teach temperature sensor (thermistor 7) having a power signal that originates from the power supply (low voltage source 25) via the CPU (3, 21) to provide a temperature signal back to the CPU (3, 21) (column 9, lines 41-43; see Figures 8, 27). Therefore in view of Hirabayashi et al., the thermistor (7)/ CPU(3,21) / low voltage source (25) coupling structure combination with Bergmann et al. fully meets "a temperature sensor that is coupled to the controller and that provides a signal to the controller which is indicative of a temperature of the liquid in the container" given its broadest reasonable interpretation.

With respect to the limitations of claim 20 and a motor to which the DC voltage output of the power supply is coupled, Hirabayashi et al. clearly teach a motor drive circuit (34) having a coupled DC power supply from the DC low voltage source (25). Therefore in view of Hirabayashi et al., low voltage source (25) coupling to the motor drive circuit (34) structure combination with Bergmann et al. fully meets "a motor to which the DC voltage output of the power supply is coupled" given its broadest reasonable interpretation.

6. Claims 5-7, 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. (U.S. Patent No. 4,937,600), as applied to claim 30 above, and further in view of Herrick et al. (International Publication WO 00/11914).

The Bergmann-Hirabayashi beverage heating apparatus combination discloses all of the limitations, as described in claim 30 above, except for a solenoid to which the DC voltage output of the power supply is coupled, wherein the solenoid is operable to dispense a beverage; valves (dispensing and refill valves) to which the DC voltage output of the power supply is coupled; and a sensor being a capacitance sensor.

However, utilizing a solenoid and valve to which DC voltage is coupled, is known in the art. Herrick et al., for example, teach a liquid pump (15) being a pump or solenoid and being electrically connected to the power supply and permitting flow of product (page 21, lines 19-20; see Figures 1, 17, 22) and inlet/refill and outlet/dispensing sealants (159, 161) functioning as valves having an electrical and fluid seal controllable

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via electrical connections 163 and 167 (page 23, lines 1-22). Such a DC powered mechanism provides the advantage of providing a non-gravitational control of the fluid flow through a fluid heating system, thereby inherently providing a more accurate means to control a valve.

Herrick et al. further teach that it is known to utilize temperature sensors and conductance sensors together in beverage dispensing apparatus (temperature sensor 19 and a conductance sensor; page 8, line 24 – page 9, line 19; page 18, line 24 - page 19, line 16; see Figures 1, 17, 22) to provide more information about the variables of the fluid to be heated (i.e. flow rate, temperature, conductance), thereby improving the closed control loop regulation of a beverage heating apparatus (page 19, lines 4-21).

In view of Herrick et al., It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the gravitation-dependent valve of the Bergmann-Hirabayashi beverage heating apparatus combination with a solenoid valve and DC control thereof to provide a non-gravitational control of the fluid flow through a fluid heating system, thereby inherently providing a more accurate means to measure and control a valve. It would have further been obvious to one of ordinary skill in the art at the time of the invention was to modify to provide a conductance sensor in conjunction with the existing temperature sensor of The Bergmann-Hirabayashi beverage heating apparatus combination to provide more information about the variables of the fluid to be heated), thereby improving the closed control loop regulation of a beverage heating apparatus.

7. Claims 7-12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. (U.S. Patent No. 4,937,600), as evidenced by Herrick et al. (International Publication WO 00/11914), as applied to claim 30 above, and further in view of Funk (U.S. Publication No. 2001/0048958).

The Bergmann-Hirabayashi beverage heating apparatus combination discloses all of the limitations, as described in claim 30 above, except for a concentrate dispenser within the beverage dispenser including a valve that is operable to dispense a beverage concentrate, a pump, having a rotatable shaft, that is operable to move the beverage concentrate and a sensor sensor sensing the speed at which the shaft rotates; and a display.

However, a beverage dispenser comprising a concentrate dispenser including a valve that is operable to dispense a beverage concentrate, a pump, having a rotatable shaft, that is operable to move the beverage concentrate and a sensor sensor sensing the speed at which the shaft rotates, as described by Funk, is known in the art. Funk teaches a concentrate dispenser (32) within the beverage dispenser (20) including a valve that is operable to dispense a beverage concentrate (gating device 62), a pump, having a rotatable shaft, that is operable to move the beverage concentrate (pump 60 being a peristaltic pump that inherently has a rotating shaft) and a sensor sensing the speed at which the shaft rotates (a variable speed pump 60 being controllable via a controller inherently has a sensor to control and sense the variable speeds; page 3,

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paragraph 27-28; see Figure 3) to precisely control amount of concentrate injected into the dilution stream of the beverage dispenser, thereby providing better control of the quality of the dispensed beverage. Funk further teaches a display (interface 36) to provide control of the controller (38) and view the system response accordingly (page 2, paragraph 20), thereby providing the user the necessary information to continually use the device. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Herrick et al. with the concentrate dispenser an control thereof of Funk to precisely control amount of concentrate injected into the dilution stream of the beverage dispenser, thereby providing better control of the quality of the dispensed beverage. It would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify Herrick et al. with the display/interface of Funk to provide control of the controller and view the system response accordingly, thereby providing the user the necessary information to continually use the device.

8. Claim 13 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. (U.S. Patent No. 4,937,600) as evidenced by Herrick et al. (International Publication WO 00/11914), as applied to claim 11 above, and further in view of Greenwald et al. (U.S. Publication No. 2004/0163546).

The Bergmann-Hirabayashi beverage heating apparatus combination discloses all of the limitations, as described in claim 11 above, except for the apparatus further

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comprising a heated water tank and the heating element being operatively associated with the heating element and the sensor sensing the temperature of the heated water tank.

However, a pre-heated water tank for a beverage dispensing apparatus with a temperature sensor is known in the art. Greenwald et al., for example, teach a beverage heating apparatus comprising holding tanks at various temperatures (see Figures 1-4). Greenwald et al. further teach specific holding tank (2) that is maintained a temperature " T_1 " which is lower than the output temperature of brewing coffee (page 2-3, paragraphs 37-38). Such a mechanism of a pre-heated temperature controlled reservoir tank provides the advantage of requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus. In view of Greenwald et al., it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the simple single reservoir of the Bergmann-Hirabayashi beverage heating apparatus combination with a pre-heated reservoir tank and sensor therein associated with the heating element to provide the advantage of requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus.

9. Claim 13 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. (U.S. Patent No. 4,937,600), as evidenced by Herrick et al. (International Publication WO 00/11914),

and Funk (U.S. Publication No. 2001/0048958) as applied to claim 11 above, and further in view of Greenwald et al. (U.S. Publication No. 2004/0163546).

The Bergmann-Hirabayashi-Funk beverage heating apparatus combination discloses all of the limitations, as described in claim 11 above, except for the apparatus further comprising a heated water tank and the heating element being operatively associated with the heating element and the sensor sensing the temperature of the heated water tank.

However, a pre-heated water tank for a beverage dispensing apparatus with a temperature sensor is known in the art. Greenwald et al., for example, teach a beverage heating apparatus comprising holding tanks at various temperatures (see Figures 1-4). Greenwald et al. further teach specific holding tank (2) that is maintained a temperature " T_1 " which is lower than the output temperature of brewing coffee (page 2-3, paragraphs 37-38). Such a mechanism of a pre-heated temperature controlled reservoir tank provides the advantage of requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus. In view of Greenwald et al., it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the simple single reservoir of the Bergmann-Hirabayashi-Funk beverage heating apparatus combination with a pre-heated reservoir tank and sensor therein associated with the heating element to provide the advantage of requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus.

10. Claims 14, 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. (U.S. Patent No. 4,937,600), as evidenced by Herrick et al. (International Publication WO 00/11914), and applied to claim 11 above, and further in view of Liverani et al. (U.S. Publication No. 2004/0163546).

The Bergmann-Hirabayashi beverage heating apparatus combination discloses all of the limitations, as described in claim 11 above, except for a cooling cabinet and a heat sink and temperature sensors sensing a portion of each component, and both being cooled by a fan coupled to the DC voltage output of the power supply.

However, a beverage dispensing apparatus comprising a cooling cabinet and a heat sink and both being cooled by a fan coupled to the DC voltage output of the power supply, as described by Liverani et al., is known in the art. Liverani et al. teach a conventional heat exchanger (5, 34; page 2, paragraphs 31, 35) capable of instantaneously heating water. Liverani et al. further teach that a cooling cabinet (loading compartment 45) for mixing the hot water with the appropriate mixer may be associated with a heat sink (Peltier cell 48) and a cooling fan 50 to cool the heat sink and thereby in return cool the cooling cabinet to prevent the decay of the product, thereby increasing the quality and enjoyment of the dispensed beverage (page 1, paragraphs 7-16; page 2-3, paragraph 36). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to the Bergmann-

Hirabayashi beverage heating apparatus combination with the cooling cabinet / heat sink / fan cooling configuration of Liverani et al. to prevent the decay of the product.

11. Claims 14, 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. (U.S. Patent No. 4,937,600), as evidenced by Herrick et al. (International Publication WO 00/11914), and Funk (U.S. Publication No. 2001/0048958) as applied to claim 11 above, and further in view of Liverani et al. (U.S. Publication No. 2004/0163546).

The Bergmann-Hirabayashi-Funk beverage heating apparatus combination discloses all of the limitations, as described in claim 11 above, except for a cooling cabinet and a heat sink and temperature sensors sensing a portion of each component, and both being cooled by a fan coupled to the DC voltage output of the power supply.

However, a beverage dispensing apparatus comprising a cooling cabinet and a heat sink and both being cooled by a fan coupled to the DC voltage output of the power supply, as described by Liverani et al., is known in the art. Liverani et al. teach a conventional heat exchanger (5, 34; page 2, paragraphs 31, 35) capable of instantaneously heating water. Liverani et al. further teach that a cooling cabinet (loading compartment 45) for mixing the hot water with the appropriate mixer may be associated with a heat sink (Peltier cell 48) and a cooling fan 50 to cool the heat sink and thereby in return cool the cooling cabinet to prevent the decay of the product, thereby increasing the quality and enjoyment of the dispensed beverage (page 1,

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paragraphs 7-16; page 2-3, paragraph 36). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Bergmann-Hirabayashi-Funk beverage heating apparatus combination with the cooling cabinet / heat sink / fan cooling configuration of Liverani et al. to prevent the decay of the product, thereby increasing the quality and enjoyment of the dispensed beverage.

12. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. 9U.S. Patent No. 4,937,600) as evidenced by Herrick et al. (International Publication WO 00/11914) as applied to claim 30 above, and further in view of Jarocki et al. (U.S. Patent No. 6,312,589).

The Bergmann-Hirabayashi beverage heating apparatus combination discloses all of the limitations, as described in claim 11 above, except for a light to which the DC voltage output of the power supply is coupled; an alarm to which the DC voltage output of the power supply is coupled; and an auxiliary power supply configured to convert the DC voltage output of the power supply to another power supply voltage.

However, a beverage dispensing apparatus having a light to which the DC voltage output of the power supply is coupled; an alarm to which the DC voltage output of the power supply is coupled; and an auxiliary power supply configured to convert the DC voltage output of the power supply to another power supply voltage, as described by Jarocki et al., is known in the art. Jarocki et al. teach a light (three color LED lamp indicators on the front of control box 45; column 8, lines 45-55; column 10, lines 25-44;

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see Figure 5D) and an alarm (column 8, lines 56-63; column 10, lines 44-50; see Figure 5E) configured and controlled by an alarm circuit (180) which is provided power by an auxiliary power supply configured to convert the DC voltage output of the power supply to another power supply voltage (column 9, lines 55-58) to provide warnings for display and/or readout by the user, thereby providing a safer beverage dispensing device. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Herrick et al. with the lamp, alarm and auxiliary power supply combination of Jarocki et al. to provide warnings for display and/or readout by the user, thereby providing a safer beverage dispensing device.

Response to Arguments

13. Examiner accepts amendments to the Drawings, Specification Claims and respectfully withdraws the objections, accordingly.

14. Applicant's arguments with respect to claims 2-24 and 26-31 have been considered but are moot in view of the new ground(s) of rejection.

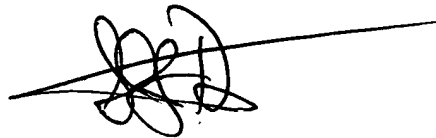
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

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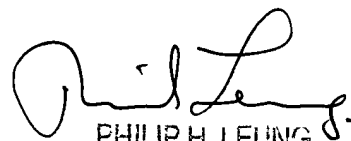
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Leung can be reached on 571-272-4782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Stephen J Ralis
Examiner
Art Unit 3742

SJR
March 27, 2007



Acting PHILIP H. LEUNG
PRIMARY EXAMINER
ART UNIT 3742